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Term	Documents
(9 AND 7).USPT.	14

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Search History

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DB Name	Query	Hit Count	Set Name
USPT	l9 and l7	14	L10
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USPT	lan or local area network	25375	L6
USPT	personal data assistant or pda or palm or handheld or hand-held	63935	L5
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USPT	footprint or foot-print	9623	L1

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□ Generate Collection

L10: Entry 1 of 14   File: USPT   Oct 2, 2001

DOCUMENT-IDENTIFIER: US 6298478 B1
TITLE: Technique for managing enterprise JavaBeans (.TM.) which are the target
of multiple concurrent and/or nested transactions

DEPR:
A user of the present invention may connect his computer to a server using a
wireline connection, or a wireless connection. Wireline connections are those
that use physical media such as cables and telephone lines, whereas wireless
connections use media such as satellite links, radio frequency waves, and
infrared waves. Many connection techniques can be used with these various
media, such as: using the computer's modem to establish a connection over a
telephone line; using a LAN card such as Token Ring or Ethernet; using a
cellular modem to establish a wireless connection; etc. The user's computer
may be any type of computer processor, including laptop, handheld or mobile
computers; vehicle-mounted devices; desktop computers; mainframe computers;
etc., having processing and communication capabilities. The remote server,
similarly, can be one of any number of different types of computer which have
processing and communication capabilities. These techniques are well known in
the art, and the hardware devices and software which enable their use are
readily available. Hereinafter, the user's computer will be referred to
equivalently as a "workstation", "device", or "computer", and use of any of
these terms or the term "server" refers to any of the types of computing
devices described above.

DEPR:
The enterprise computing environment in which the present invention may be
used includes an Internet environment, an intranet environment, an extranet
environment, or any other type of networking environment. These environments
may be structured using a client-server architecture, or a three-tiered
architecture, whereby a client-server environment is extended by adding data
repositories as a third tier (such that the server now occupies the middle
tier), and where these data repositories contain information that may be
accessed by the server as part of the task of processing the client's request.
This three-tiered architecture recognizes the fact that many client requests
do not simply require the location and return of static data from the server,
but require an application program to perform processing of the client's
request in order to dynamically create and format the data to be returned. In
this architecture, the server augmented by the component performing this
processing may be referred to as an "application server."

DEPR:
Where multiple concurrent and/or nested transactions are possible, each of the
transactions (and subtransactions) may share or utilize the same EJB; but the
capability must be provided for the view of the EJB to be unique to each
transaction (and subtransaction). In addition, the capability must be provided
for actions performed relative to an EJB to be isolated to the transaction or
subtransaction performing the actions. For example, suppose the application is
an Internet-based shopping-cart program that provides for customers to browse
an on-line catalog and order items from a product inventory, where this
process may be treated as a transaction. Shoppers using such programs may tend
to take a long time to complete their shopping transaction, and may be likely
to remove items from their shopping cart or to cancel their entire order. If
there are 6 widgets left in inventory, and Customer 1 begins placing an order

for 5 of them just before Customer 2 begins to order another 5, the ordering application may wish for Customer 2 to see the available inventory as 6 instead of 1. This is because Customer 1 might decide to cancel his order, making the widgets available to Customer 2. If the inventory count had already been decreased, Customer 2 might have decided prematurely to cancel his order based on his impression that the remaining inventory was insufficient. (Obviously, if both customers proceed with their orders, application-specific logic must resolve conflicts such as the inventory shortage in the example.)

DEPR:
At the same time that this isolation capability is needed, a subtransaction (the placing of a particular product into the shopping cart, for example) may be cancelled by the user as he changes his mind about a subtransaction within the progression of windows for a transaction (or other equivalent progression within a transaction), so that the capability to handle this situation must also be provided. (Depending on the particular application, transactions and subtransactions may also be cancelled by the application itself.) While any modifications made to an EJB within the cancelled subtransaction, and any of its children, must necessarily be cancelled when the subtransaction is cancelled, any changes made by a higher-level window or subtransaction in the transaction should not also be cancelled. Views are used by the present invention to address this problem. In this use of the "view" concept, the current representation of information the application sees in a view is the current representation of the EJB. Thus by providing each transaction, and each subtransaction (when appropriate), its own view of the EJB, each transaction and subtransaction is able to see a completely independent representation of the EJB that is isolated from any other transaction and subtransaction.

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DOCUMENT-IDENTIFIER: US 6282517 B1
TITLE: Real time communication of purchase requests

DEPR:
Computer networks suitable for use with the present invention include local
area networks (LAN), wide area networks (WAN), Internet, or other connection
services and network variations such as the world wide web, the public
internet, a private internet, a private computer network, a secure internet, a
private network, a public network, a value-added network, and the like. The
computers connected to the network may be any microprocessor controlled device
that permits access to the network, including terminal devices, such as
personal computers, workstations, servers, mini computers, main-frame
computers, laptop computers, mobile computers, palm top computers, hand held
computers, set top box for a TV, or a combination thereof. The computers may
further possess input devices such as a keyboard or a mouse, and output
devices such as a computer screen or a speaker. The computer network may
include one or more LANs, WANs, Internets, and computers. The computers may
serve as servers, clients, or a combination thereof.

DEPR:
One example of the LAN 108 may be a corporate computing network, including
possible access to the Internet, to which computers and computing devices
comprising the Data Center system are connected. In one embodiment, the LAN
108 conforms to the Transmission Control Protocol/Internet Protocol (TCP/IP)
industry standard. In alternative embodiments, the LAN 108 may conform to
other network standards, including, but not limited to, the International
Standards Organization's Open Systems Interconnection, IBM's SNAG.RTM.,
Novell's Netware.RTM., and Banyon VINES.RTM..

DEPR:
In accordance with one embodiment of the invention, the Data Center server 104
is connected to the Internet and utilizes at least a first user web page
remotely accessible by a potential buyer. This user web page permits the
potential buyer to enter the necessary buyer and product information into the
Data Center system. In another embodiment, the Data Center server 104 utilizes
a second HTML page accessible by an authorized dealer. The authorized dealer
utilizes this web page to access the Data Center system and features as
further detailed herein. Those of ordinary skill in the art will recognize
that a single web page may be used to provide both remote buyer and dealer
access to the Data Center system. Further, access for a remote buyer could be
through an entirely different network than that used for access by the dealer.

ORPL:
Nauman, Matt; The Virtual Showroom Car Shopping on the Web; San Jose Mercury
News, Section: Drive; p12, Feb. 7, 1997.*

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DOCUMENT-IDENTIFIER: US 6199753 B1
TITLE: Method and system for presenting item information using a portable data terminal

ABPL:
The present invention relates to an improved portable shopping system. The system is provided with improved data presentation system for presenting customer desired data on a portable terminal. The portable terminal includes audio as well as video presentation means which are used to provide customer specific marketing files to promote the sale of identified items.

BSPR:
The use of data collecting portable computing terminals such as the PPT 4100 and the PPT 4600 manufactured by Symbol Technologies, Inc., the assignee of the present invention, has been adopted in many commercial applications. These terminal systems may include integrated bar code readers which permit the collection, storage and distribution of a high volume of data without the need for extensive keypad data entry. These terminal systems also provide full computing capabilities using standard PC architectures. These terminal systems may also be provided with wireless communication radio systems such as Symbol Technologies, Inc. local area network radio system "SPECTRUM24.TM.". The SPECTRUM24.TM. radio network system permits hand-held terminals to share and retrieve data in the proximity of local area networks with a central host.

BSPR:
In a preferred embodiment of the present invention, a portable terminal having an integrated machine code reader and a radio is provided with a graphical user interface such as a "web browser." The terminal is provided with a display for illustrating help and instructional files associated with a selected item identified with the machine code reader. Thus, a warehouse clerk who reads a bar code from a box of potato chips will automatically retrieve from the central host an instruction file instructing the person where to forward the package, or in an alternative embodiment, an airplane mechanic will be provided with repair instructions from a central host for an engine part which is marked with a machine readable code. In an alternative embodiment, a consumer using a hand-held terminal in a self-scanning application of the present invention (sometimes referred to as self-shopping or self-checkout) receives marketing, pricing, and additional information from a central host for products she has scanned with her portable terminal.

BSPR:
The information downloaded to the hand-held terminal can be presented in any number of forms. The data can be presented in the form of a still picture, text, audio or as video. As a result, a mechanic unknown to the manufacture using an open standard communications network and a generic hand terminal can download a video image of an engine part and a video clip for the part providing instructions on its removal and repair. The use of standard data protocols such as those used currently on the Internet permit wide area accessibility over commercial and closed communication networks on any number of hardware platforms.

DRPR:
FIG. 10 is a flow chart of a home shopping delivery system employing a

preferred embodiment of the present invention.

DEPR:
The present invention will be described in terms of an improved portable
shopping system in a retail facility. However, as noted above, it will be
understood by those skilled in the art that the present invention may be
utilized in any data collection environment in which data is communicated from
a central host to an end user employing a portable data collection terminal.

DEPR:
In a preferred embodiment, the terminal 70 is also provided with a limited
number of activation buttons 76, 77 and 78 for performing various user
functions. In the context of a preferred portable shopping system, the
portable terminal includes a "plus" key to "add" an item selected by a
consumer to a list of purchased items, a "minus" key to "delist" a previously
selected item from the purchase list which is to be returned to the shelves of
the store, and an "equals" key to display the total cost of the items selected
for purchase.

DEPR:
In a preferred embodiment of the present invention, the terminal 70 is
provided with a voice communication system including a microphone 71 and a
speaker 74. This voice communication system may be used to obtain assistance
from a store operator or to transmit audio data broadcast by the central host,
i.e., "Please proceed to the store checkout center, the store will close in
ten minutes" or "Soda is on sale for 89 cents in aisle five." Video messages
may also be transmitted to the video display 72. In order to protect consumers
in retail facilities from unwanted commercial transmissions, the terminal is
also provided with a commercial transmission "on/off" button 79. This button
disables transmission of broadcast audio and/or video commercials to consumers
during their shopping trips. Preferably, the "off" button will not disengage
the transmission of urgent messages such as a lost child notice, an emergency
notice, or as described further below, a specified preference information
message. In addition, the voice system on the portable terminal may also be
used to provide voice activated control commands on the portable terminal.

DEPR:
Collection of data is preferably performed by a bar code scanner 75.
Preferably the scanner will be able to read one and two dimensional bar codes
such as the ubiquitous UPC code and PDF 417 code. In an alternative embodiment
of the present invention, the scanner is detachable from the terminal so that
the terminal may be attached to a shopping cart with a shopping cart cradle
and the scanner can be detached for use by the consumer. The scanner could be
provided with either a short range radio link and its own battery supply or a
wired connection. In the event the products selected by the customer also bear
electronic article surveillance (EAS) tags, the terminal may also be provided
with a deactivation circuit which is activated when the product is scanned for
purchase and deactivation prior to the product being delisted from the
consumer's shopping list. An example of such an activation/deactivating system
is described in pending U.S. patent application Ser. No. 07/919,410 filed on
Jul. 27, 1992 which is assigned to Symbol Technologies, Inc. The EAS tags are
preferably used on a limited number of restricted sales items so that the EAS
tags will be deactivated/activated only upon determination that the selected
item is available for purchase by the customer at that specified time and
place.

DEPR:
In a preferred embodiment of the present invention host 14 and host 24
communicate data over the wide area network 30 with open standard protocols
and data types such as that used by an Internet server. Such a system would
permit host 14 to retrieve and utilize data from servers without complex data
conversion and translation routines. In a preferred embodiment, the open
architecture standard is also designed into the portable terminals so that
data files can be transparently retrieved by the portable terminals 12A-12E
through to the host 14. With respect to sensitive and confidential data, it is

preferred that the systems employ encryption technology or use a secure closed
communication link.

DEPR:
In a preferred embodiment of the present invention, locations 10 and 20 (FIG.
1) are retail facilities employing self-scanning systems illustrated in FIG.
4. These systems are also sometimes referred to as self-checkout and
self-shopping systems which terms will be used interchangeably herein. In FIG.
4, the portable terminal 100 communicates over a wireless communication
network 130. In the illustrated embodiment, the multi-access point 13 (FIG. 1)
is incorporated into a controller 150 which functions as the central host to
the portable terminal 100. The controller 150 is coupled to an in-store point
of sale (POS) controller 160 which may be an IBM 4680/90 or similar computer
which includes price information and maintains statistical data as to
purchases, discounts, inventory, and promotional information. Although these
controllers are shown as physically separated items, they could also be
logical distinct software items in a single hardware device.

DEPR:
Recognizing that some goods may not be scanned due to coding damage or other
issues, a customer may proceed to a manned checkout station such as POS
terminal 170 for the addition of items to their receipt. At such point,
additional payment may need to be made using traditional payment schemes, or
if the central processing unit is being used to provide a debit function,
customer card and pin code information may need to be entered at the checkout
facility. After all items are selected and the transaction is complete, the
customer's data file is updated in the central processing unit to reflect the
customer's shopping activities.

DEPR:
In a preferred embodiment, each customer who uses the system has an associated
data file stored on the central host including a customer preference list.
Thus, when a customer is issued a portable terminal 100, the central host
creates a transaction file for the customer to track the customer's shopping
history and also downloads preselected preferences. Such preferences may be
collected/activated when the customer signs up for the system or may be added
or modified later through a customer service desk or kiosk (not shown) which
is connected to the central host 150. The preference list may be stored on a
computer database or on the customer's identification card.

DEPR:
A user selects which, if any, of the following categories of information they
would like to activate during their shopping transaction. Certain of the
preferences may be activated by the scanning of certain items. Examples of
such preferences are selections (1), (2), (3), (4), (5), (6), (7), (8) and
(9). For instance, if a customer has activated items (1), (2) and (5), the
customer's scan of a pint of frozen yogurt may prompt the customer that the
product has a certain amount of cholesterol and calories per serving and that
a cheaper per serving alternative for the same brand is available in a
one-quart container.

DEPR:
In FIG. 7E, an example is provided of a consumer using the cholesterol
preference. The consumer has scanned an item of broccoli, a no cholesterol
item. The scanned item is displayed with a friendly message and a happy face
which in this case acts as a "link" to a consumer's advocate home web page
available on the Internet which provides various data and recommendations on
how to prepare broccoli and other healthy foods. The selection of this link,
in the illustrated example, would download a text-only version of the web
page. In the event a larger display was used such as that shown in FIG. 2, the
graphics version of the page would be displayed.

DEPR:
The two-way audio system of the present invention permits retail facilities to
transmit emergency broadcast messages on the portable terminal and permits

customers to respond quickly. For instance, inquiries as to a lost child could
be made by a parent and retransmitted to all other users in the store or to a
service attendant, located near the store exit who can ensure that the lost
child is not permitted to leave the facility. Moreover, the phone system
permits facilities having multiple locations to use service desk assistants
located at a central location to service multiple locations. A store need not
set up a telephone help desk at each location. In addition, the telephony
application could also be implemented to provide (i) customer notification
upon the availability of an ordered item (i.e., deli order is ready), (ii)
place orders for out-of-stock items, and (iii) identify the location of all
store shoppers and employees.

DEPR:
The self-shopping embodiment of the present invention permits broad in-store
marketing programs including pinpoint marketing, coupon distribution and
coupon tracking. An example of a preferred marketing system employed in a
system of the present invention is described below.

DEPR:
In order to provide coupon functions, the central host is provided with a
database of available electronic coupons and hard coupons. In a preferred
embodiment, the system automatically creates a linked page for scanned items
including any associated information matching a customer's preference profile.
The system will employ a dynamic page builder using a predetermined coupon
template wherein a hyperlink to a page of coupon data is presented. In the
event the page exceeds the display limitations of the display (i.e., requires
more lines than are available on a single display) for the terminal in use,
the page builder automatically creates a new "next page" link to be displayed
on the terminal. The dynamic page builder program also permits an override
function in the event a link is provided to an external web page address.
Using the IP address of the portable terminal, the central host will retrieve
the file from a remote site (i.e., an Internet server) and retransmit the web
page to the portable terminal. The retransmission by the central host will
include any reformatting constraints which are applicable to the destination
portable terminal which may only have a partial view screen capability. The
resulting collection of data may then be transmitted to the in-store system by
E-mail transmission or through a data collection article such as a smart-card
or a floppy disk. Store receivers (i.e., kiosks) would be installed to load
such data on to the customer's data file.

DEPR:
In another preferred embodiment of the present invention, the central host
also provides for the uploading of customer shopping lists. Thus, a customer
may generate a shopping list and Email the list to a predetermined secure
(i.e., password protected) Email address. The customer's Email address would
be predetermined and automatically associated with a customer's file at the
shopping facility. When the customer is assigned a portable terminal, the
portable terminal's initial prompt will also include a message link indicating
that a message has been received for the customer. The selection of the link
would cause the Email message to display on the portable terminal.

DEPR:
In a further embodiment of the present invention, the central host delivers to
the customer via an Email address on a customer's PC 45 (FIG. 1) a list of
previously purchased items, or in the alternative, the central host makes
available on a customer accessible but password protected web page the
customer's prior purchase records and a complete listing of available items at
the store. As described in FIG. 10, the customer may then select items for
inclusion on a customer specific shopping list by checking specific items
which are to be purchased and the quantity required for purchase. By using the
item selection method, i.e., selecting from a store's list of available goods,
the list may be used to prompt customers on their next visit to the store the
exact location and price of the selected items on the list by ensuring that
the notation used by a customer for items selected for purchase will match the
product identifiers used by the central host. The above described shopping

list system also permits for home delivery of items because of the assurance
of a match between items selected by a customer and items including brand,
quantity and price available at the facility.

DEPR:
In a preferred embodiment of the present invention, the customer selection of
items is made through a graphical use interface which simulates a store
layout, i.e., aisles with items in them as they are stacked within the store.
This permits the user to find items they know are located in certain aisles of
the store. Once the customer has completed their selection the shopping list
is also provided with a general comment section to provide special
instructions to the store or reminders to themselves. It is preferred that the
central host acknowledge receipt and recognition of selected items by Email
response or telephone call to the customer's location. In the event of an
Email order for home delivery, it is also preferred that the customer receive
a telephone call to ensure that the customer has in fact placed the order and
to provide credit card verification information if the order is to be paid in
the form of an electronic fund transfer.

DEPR:
Once the customer's order has been placed electronically, a store attendant
using a portable terminal of the present invention is prompted to collect
items for delivery to the specified customer. The attendant collects and scans
items which have been selected for purchase. In the event a product is not
available because it has been depleted subsequent to the order being placed,
the attendant is provided with an out-of-stock marker. The marker could be a
bar coded command on a bar coded command sheet provided to the attendant which
could include scannable instruction codes such as "Begin new client
collection," "Out of stock item," "Suspend client collection," "Cancel client
collection" and "Scan bag for client." For example, in the event the item
selected by the customer for purchase is out-of-stock the bar coded command
indicating that the item is out of stock is scanned by the attendant. The
shopping list delivered to the customer is then modified to indicate the item
has not been included for delivery to the customer. In a preferred embodiment
of this system, the customer may mark items as "essential" or "required for
delivery" so that key ingredients (as in recipes) are not omitted which would
make the rest of the requested items unnecessary. Thus, if a customer selects
items on a list based on a recipe which is suggested on the store's home page,
and a critical element is not available, all the items on the recipe may be
withheld. This "requirement" condition can be tagged to the complete list or
simply a portion of the list using any number of methods which would become
obvious to one skilled in the art subsequent to reading this description.
Essential items could also be linked to or marked with alternative products.

DEPR:
As a result, a customer's shopping list will be subdivided into a series of
lists with related items which a customer may redesignate for its own
purposes. Once the attendant has completed the collection process, the
attendant prints out customer stickers which are placed on bags used to
transport a customer's selected items to the customer's delivery location. The
attendant may be provided with a portable printer which is commercially
available from Symbol Technologies, Inc.

DEPR:
In order to improve on the efficiency of the delivery system described above,
it is preferred that the customer include a delivery time window and location
in their delivery requests. Once these entries are entered into the central
host, the central host will order the collection of home delivery orders so as
to provide for the delivery to customers located in proximity to each other in
both location and delivery time periods. In addition, a customer's shopping
list may also be reorganized by the central computer to account for efficient
collection of goods for the attendant relevant to current location. Thus, all
items in the same aisle will be grouped together for collection by the
attendant and once a location within the aisle is identified by the scanning
of a current or prior article, the order will be reordered to provide for the

ordered selection of goods within the aisle. This dynamic reorganization of items allows for real world situations in which an attendant may be called away for a moment or simply proceeds in an inefficient direction.

DEPV:
(16) frequent <u>shopper</u> point level, including those from partner companies (e.g., Blockbuster and 7-11)

CLPR:
1. A method for delivering to a user a <u>shopping</u> list of items for selection by the user at a <u>shopping</u> facility, said method comprising the steps of:

CLPV:
(a) generating a list of desired items at a location remote from said <u>shopping</u> facility;

CLPV:
(c) retrieving said list at the <u>shopping</u> facility from the user data file using a kiosk which communicates with the first computer;

CLPV:
(d) delivering said list to the user at the <u>shopping</u> facility in a user perceptible format;

CLPV:
(g) recording the marketing messages which influenced the user's <u>shopping</u> decision,